REMARKS

Claims 1, 19, 21-24, 26-28, and 31-35 have been amended. Claims 2-18, 20, 25, 29, 30, and 37 have been canceled. No new matter has been added. Claims 1 and 19, 21-24, 26-28, 31-36 are pending.

Examiner Interview held on May 9, 2007

An interview was held between Examiner Pham, James Banowsky and Derek Harris on May 9, 2007. Applicant thanks Examiner Jalil for the courtesies extended during the interview.

Claim 1 is amended to recite receiving an input and determining a second value of a tag bit in a node of the node section, the node corresponding to the input. The specification discloses ample support for this feature. For example, the specification at page 11, lines 7-9 discloses "A user may enter commands and information into the personal computer 20 through input devices such as a keyboard 40 and pointing device 42." Also, the specification at page 13, lines 14-21, "wherein in response to some input, such as from the application program 62, a decompression engine 64 accesses the trie structure 60 and returns a suitable output. As described below, the input is typically representative of a word, such as a string of text or a number representing a word. The output is some information related to the input, such as the word itself, a number representing the word, or some value related to the word."

Claim 28 is amended to recite the header including a value array information field. The specification discloses ample support for this feature. For example, the specification at page 27 lines 19-22 and page 28, lines 1-2, "retrieves the size of the value from the value array information 92 in the header 70 (unless the size is predetermined) and step 910 obtains the appropriate value (e.g., from the byte following the node's flags) and adds it to the node information that is being

accumulated for this node. Step 910 then continues to step 926 to perform any further processing as described above."

Claim Rejections - 35 U.S.C. § 112

Claims 1, 21, 28, 31, 32, and 34-36 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. This rejection is respectfully traversed.

The Office Action asserts that claim 1 recites "outputting the data component," which is supposedly "not described in the specification (see Office Action, page 4). The specification discloses ample support for this feature. For example, the specification at page 13, lines 15-16 discloses "a decompression engine ... returns a suitable **output**" (emphasis added). Also, the specification at page 13, line 19 discloses, "the **output** is some information related to the input..." (emphasis added).

The Office Action further asserts that claim 21 recites "the header including at least one bit for indicating a size of the tag mask field," claim 28 recites "outputting a word in the trie based on the pattern of values of the tag mask bits of the tag mask field." For support, see specification especially at page 22, lines 19-24; page 13, lines 15-16.

The Office Action further asserts that claim 31 recites "a value size array field for indicating a size of the value associated with the at least one tag mask bit." For support, see specification especially at page 24, lines 9-11.

The Office Action further asserts that claim 32 recites "identifying a tag mask bit as having associated tag data based on a value of the tag value field." For support, see specification especially at page 25, lines 1-2 and 2-9.

The Office Action further asserts that claim 32 recites "determining the tag data associated with the identified tag mask bit based on a value of the value mask field," and "outputting the corresponding data component includes outputting the associated

tag data." For support see specification especially at page 24, lines 9-13; page 25, line 23-page 26, line 1; and arguments pertaining to the recitation of "outputting the corresponding data component" set forth above.

The Office Action further asserts that claim 34 recites "determining a number of tags present in the trie based on the tag mask field" and claim 35 recites "determining the number of tags present in the trie includes summing the number of one bits in the tag mask field of the node." For support, see specification especially at page 28, lines 3-7.

The Office Action further asserts that claim 36 recites "counting each node in the plurality of nodes that are tagged" and "generating a map between a unique number and a tagged node based on the array." For support, see specification especially at page 29, lines 17-18 and page 31, lines 7-9.

Withdrawal of the rejection is respectfully requested.

Claim Rejections - 35 U.S.C. § 112

Claims 26-28 and 32 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention for reciting the word "corresponding."

Claims 26-28 and 32 have been amended. Withdrawal of the rejection is respectfully requested.

Claim Rejections - 35 U.S.C. § 102

Claims 1, 19, 20, 22-30 and 33-35 were rejected under 35 U.S.C. 102(a) as being anticipated by Knuth [The Art of Computer Programming].

Claim 1, as amended, recites receiving an input, determining a first value of the tag information field in the header and based on the first value, determining a second

value of a tag bit in a node of the node section, the node corresponding to the input. Knuth fails to teach or suggest this feature.

Knuth discloses searching a tree of words in which each word constitutes a "node" and each node has a KEY, LLINK/RLINK, LTAG/RTAG, and SKIP field. Knuth further discloses that the header contains only KEY, LLINK and LTAG fields. In Knuth, a word is searched in a tree of words (e.g., the word "THE" which has a bit pattern of 10111 01000 00101 - see Knuth, page 499). Of the words or nodes in the tree, the first node (i.e., node α) contains a SKIP field that contains a value of "1". Based on this value, bit "1" of the argument is examined. Since the value of bit "1" of the argument is "1", the node to the right (i.e., node γ - see FIG. 33, page 498) is next examined. Hence, the RLINK field in node α contains a pointer to node γ. See page 499, lines 14-15. The SKIP field in node γ is "11" (see FIG. 33, page 498 and page 499) indicating that 11 bits should be skipped such that the 12th bit (1+11) in the argument should be examined (i.e., "0" in this example). The bit value of "0" indicates movement to the left node (LLINK field of node γ contains a point to node ε). Therefore, node ε is next examined in this example. The SKIP field in node ε is "1" which indicates that 1 bit should be skipped such that the 13th bit (12+1) in the argument should be examined (i.e., "1" in this example). See FIG. 33, page 498 and page 499. The value of "1" bit indicates movement to the right (i.e., to the node indicated by the RLINK field of node ε). In this case, RTAG is set to "1" indicating that the RLINK field contains a pointer to an ancestor node (i.e., node γ).

Notably, RTAG is a bit that, when set indicates that the pointer contained in the RLINK field of the node points to an ancestor node. Similarly, LTAG is a bit that, when set, indicates that the pointer contained in the LLINK field of the node points to a child node. The RLINK field of the node contains the pointer that indicates the destination node to the right of the current node and the LLINK field of the node contains the pointer that indicates the destination node to the left of the current node. RTAG and LTAG are bits that indicate whether the nodes being pointed to by pointers in RLINK and

LLINK, respectively are ancestor nodes or child nodes. However, neither RTAG nor LTAG indicate whether RLINK or LLINK are present in the node or not. In fact, as Knuth discloses, the nodes contain LLINK and RLINK and fails to teach or suggest that these fields are not present in nodes.

Claim 1 recites determining a first value of a tag information field in the header. Knuth discloses that the header contains "only KEY, LLINK and LTAG fields" (page 499, line 26). Hence, Knuth fails to teach or suggest the header contains a tag information field.

Claim 1 recites based on the first value, determining a second value of a tag bit in a node. Knuth fails to teach or suggest determining a value of any field in the header at all much less determining a second value of a tag bit in the node based on the value of the field in the header. The Office Action equates the "tag bit" with RTAG or LTAG of Knuth (see Office Action, page 3). Even assuming *arguendo* that the Office Action's assertion is correct, Knuth fails to teach or suggest determining a value of either RTAG or LTAG based on a value in a field in the header.

Claim 1 recites based on the first value and the second value, identifying whether a tag mask field is present in the node. Knuth fails to teach or suggest this feature. The Office Action equates the tag mask field with RLINK or LLINK of Knuth. Even assuming *arguendo* that the Office Action's assertion is correct, Knuth still fails to teach or suggest identifying whether RLINK and LLINK are present in the node based on a value of a field in the header (first value) and a value of RTAG and LTAG (second value, according to the Office Action). Of note, Knuth fails to teach or suggest that RTAG or LTAG identifies wither RLINK or LLINK are present in the node. Rather, RTAG and LTAG contain values that indicate if pointers in RLINK and LLINK, respectively, refer to an ancestor node or a child node. In either case, RLINK and LLINK fields in Knuth are present.

Claim 1 recites identifying at least one set bit in the bits of the tag mask field and generating trie data corresponding to the node based on the identified at least one set bit. Knuth fails to teach or suggest this feature. The Office Action equates RLINK or LLINK with the tag mask field. Even assuming *arguendo* that the Office Action's assertion is correct, Knuth still fails to teach or suggest identifying at least one set bit in RLINK or LLINK fields and generating trie data based on the identified at least one set bit. As set forth above, RLINK and LLINK are field in the node that contain pointer values that indicate either an ancestor node or a child node. This is unrelated to claim 1.

Claims 20, 25, 29, 30 have been canceled.

Claims 19, 22-24, 26-28, and 31-35 depend from claim 1 and are allowable for at least the reasons set forth above for claim 1. Withdrawal of the rejection is respectfully requested.

In addition, claim 19 recites identifying the second value as indicating that the tag mask field is present in the node. The Office Action asserts that the tag mask field is equivalent to the RLINK or LLINK fields in Knuth and that the tag bit is equivalent to the RTAG or LTAG bits in Knuth. Even assuming *arguendo* that the Office Action's assertion is correct, Knuth still fails to teach or suggest that the value of RTAG or LTAG indicates that RLINK or LLINK fields are present or not. Indeed, the RTAG and LTAG bits indicate whether RLINK and LLINK point to ancestor nodes or child nodes, according to Knuth. Knuth assumes that RLINK and LLINK fields are always present. Thus, an indication whether a field that is always present is present or absent would be unnecessary in Knuth. The rejection should be withdrawn.

Claim 24 recites identifying presence of the tag mask field based on the setting of the tag bit. The Office Action asserts that the tag mask field is equivalent to the LLINK or RLINK fields of Knuth and that the tag bit is equivalent to the RTAG or LTAG bits of Knuth. Even assuming *arguendo* that these assertions are correct, Knuth still fails to

teach or suggest identifying presence of the LLINK or RLINK fields. Withdrawal of the rejection is respectfully requested.

Claim 28 recites that the header includes a value array field and setting the size of the value associated with the trie data equal to the value of the value array information field. Knuth fails to teach or suggest a value array field much less setting a size of a value associated with the trie data equal to the value of the value array field. Withdrawal of the rejection is respectfully requested.

Claim 34 recites summing the number of one bits in the tag mask field of the node. The Office Action asserts that Knuth discloses this feature at page 500, lines 11-13. However, Knuth fails to disclose this feature. At page 500, lines 11-13, Knuth discloses determining the number of bits to skip during analysis. The value of the SKIP field in the node indicates the number of bits to skip when analyzing the bit pattern. The one bits in the bit pattern are not summed in Knuth as the Office Action asserts. On the contrary, the counter "j" in Knuth is incremented by the number of skipped bits, however, the number of bits indicated in the SKIP field are skipped regardless of whether the bits are ones or not. The value of the SKIP field (the number of bits to skip) are previously stored in the SKIP field and are unrelated to a sum of the number of one bits in the RLINK or LLINK fields.

The Office Action admits that Knuth fails to teach or suggest claim 36 but asserts that claim 36 is disclosed in the "Background" section of the instant application at page 3, line 13 - page 4, line 12). However, contrary to the Office Action's assertion, the instant application at page 3, line 13 - page 4, line 12 discloses a method known as "global enumeration." This method is not the same as "partial enumeration" as recited in claim 36. For a description of one example of partial enumeration, the Patent Office is referred to the specification beginning at page 29, line 13.

Withdrawal of the rejection is respectfully requested.

Claim Rejections - 35 U.S.C. § 103

Claims 21, 31, and 32 were rejected under 35 U.S.C. 103(a) as being unpatentable over Knuth. This rejection is respectfully traversed.

Claims 21, 31 and 32 depend from claim 1. As set forth above, Knuth fails to teach or suggest claim 1. Withdrawal of the rejection is respectfully requested.

In addition, claim 21 recites that the header includes a value mask field. Knuth discloses a header that "contains only KEY, LLINK, and LTAG fields." See page 499, line 26. Therefore, Knuth fails to teach or suggest claim 21.

Claim 21 further recites comparing the at least one set bit with a bit in the value mask field in the header and based on the comparing, identifying a size of the value associated with the trie data. Knuth fails to teach or suggest this feature. Knuth fails to teach or suggest comparing any portion of the header with any portion of the node much less identifying a size of trie data based on the comparison. The rejection should be withdrawn.

Claims 36 and 37 were rejected under 35 U.S.C. 103(a) as being unpatentable over Knuth in view of the instant specification. This rejection is respectfully traversed.

Claim 37 has been canceled. Claim 36 depends from claim 1. As set forth above Knuth fails to teach or suggest claim 1. The Background of the Invention section of the instant application does not teach or suggest claim 1, nor does the Office Action assert that the Background section of the instant application does.

In addition, the Office Action asserts that the Background of the Invention section of the present application discloses partial enumeration at page 3, line 13 - page 14, line 12. This assertion is incorrect. The Background of the Invention at page 3 describes "global enumeration" (see Background of the Invention at page 3, lines 13-14). However, nowhere in the Background of the invention is "partial enumeration" disclosed. Withdrawal of the rejection is respectfully requested.

New claims 38-42 are allowable over the cited reference (Knuth). Claim 38 is similar to claim 1 and is allowable for similar reasons set forth above for claim 1.

CONCLUSION

Accordingly, in view of the above amendment and remarks it is submitted that the claims are patentably distinct over the prior art and that all the rejections to the claims have been overcome. Reconsideration and reexamination of the above Application is requested. Based on the foregoing, Applicant respectfully requests that the pending claims be allowed, and that a timely Notice of Allowance be issued in this case. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, please charge any deficiency to Deposit Account No. 50-0463.

Respectfully submitted,
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